

## THE NEWBORN INTESTINAL MICROBIOTA OVERTIME AND SPACE

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The human gastrointestinal tract harbors a large variety of microorganisms. Firstly, the human newborn is devoid of bacteria before birth. Bacteria start appearing from the first days of life. Within a few hours the newborns develops its normal bacterial flora, which originates principally from the immediate environment the hospital staff and the effect feeding. The composition of the newborn bowel flora depends on age, race and basically on the diet of the person. The different part of the gastrointestinal ecosystem seems to carry different bacterial populations concerning as well qualitative and quantitative differences. Bacterial numbers are increasing as they move down the alimentary tract, where the bacterial population can reach extremely high numbers as more than 10 million bacteria/mL of fecal fluid. Members of genera *Lactobacillus* are normal residents of the complex ecosystem of the human gastrointestinal tract. They possess a beneficial effect by improving the human intestinal microbiota via different actions and called so then probiotics. Moreover, probiotics produce nutrients, bacteriocins, antimicrobial substances, they are able to eliminate toxins and protect food from putrefaction. It is then obvious, that the probiotic approach will help to determine the role of the bacterial species as well as ingredients promoting their growth in the gastrointestinal tract. Clearly, the beneficial potential of the human microbiota is qualified together with the deficiencies in the gut flora, as a tool having a protecting effect upon the gut bacterial colonization. *Lactobacillus*, which are facultative anaerobic or aerobic rods, are important part of the human microbiota by inhabiting various organs without usually exerting any pathogenic effect. However, specific factors determining the development of the human lactic acid microbiota are not yet completely elucidated and studies focusing on the different strains distribution in the various human organs could clarify this crucial problem.

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